



Jeremiah W. (Jay) Nixon, Governor

Sara Parker Pauley, Director

## DEPARTMENT OF NATURAL RESOURCES

dnr.mo.gov

May 13, 2014

Mr. Bryan Bethel, Park Superintendent  
Harry S Truman State Park  
28761 State Park Road West  
Warsaw, MO 65355

RE: AP#8281 Wastewater Treatment Improvements –Harry S Truman State Park Wastewater Treatment Facility, MO-0136018 (pending), Construction Permit No. 0001187

Dear Mr. Bethel:

The Missouri Department of Natural Resources' (Department) Kansas City Regional Office has reviewed and approved the plans and specifications submitted by Crowley, Wade, Milstead, Inc. for the Division of State Parks. Please find enclosed Construction Permit No. CP0001187.

This permit will terminate 12 months from the date of issuance. In accordance with 10 CSR 20-6.010(4) (G), the Department may grant an extension only one time. If you believe that an extension is necessary, you must submit a request and a justification in writing for the extension at least 30 days prior to the permit expiration date.

This construction permit does not supersede any requirements of the operating permit or enforcement actions. Nothing in this permit removes any obligations to comply with county or other local ordinances or restrictions.

If you were adversely affected by this decision, you may appeal to have the matter heard by the Administrative Hearing Commission. To appeal, you must file a petition with the Administrative Hearing Commission within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the Administrative Hearing Commission.

If you have any questions concerning this matter, please contact Mr. Scott F. Honig, P.E., of the Kansas City Regional Office, at (816) 251-0711 or Missouri Department of Natural Resources, Kansas City Regional Office, 500 Northeast Colbern Road, Lee's Summit, Missouri 64086-4710. Thank you.

Sincerely,

KANSAS CITY REGIONAL OFFICE

Andrea D. Collier, P.E.  
Regional Director

ADC/shv

Enclosures

c: Mr. Aaron M. Barnhart, P.E. Crowley, Wade, Milstead, Inc.  
Mr. Jon Fitch, P.E., MDNR Division of State Parks

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To learn more about the Missouri Department of Natural Resources visit [dnr.mo.gov](http://dnr.mo.gov).*

**STATE OF MISSOURI**  
**DEPARTMENT OF NATURAL RESOURCES**

**MISSOURI CLEAN WATER COMMISSION**



**CONSTRUCTION PERMIT**

The Missouri Department of Natural Resources hereby issues a permit to:

Bryan Bethel, Park Superintendent  
Harry S Truman State Park  
28761 State Park Road West  
Warsaw, MO 65355

for the construction of (described facilities):

See attached.

Permit Conditions:

See attached.

Construction of such proposed facilities shall be in accordance with the provisions of the Missouri Clean Water Law, Chapter 644, RSMo, and regulation promulgated thereunder, or this permit may be revoked by the Department of Natural Resources (Department).

As the Department does not examine structural features of design or the efficiency of mechanical equipment, the issuance of this permit does not include approval of these features.

A representative of the Department may inspect the work covered by this permit during construction. Issuance of a permit to operate by the Department will be contingent on the work substantially adhering to the approved plans and specifications.

This permit applies only to the construction of water pollution control components; it does not apply to other environmentally regulated areas.

May 12, 2014  
Effective Date

Sara Parker Pauley  
Sara Parker Pauley, Director, Department of Natural Resources

May 12, 2015  
Expiration Date

Andrea D. Collier  
Andrea D. Collier, P.E. Director, Kansas City Regional Office

# **CONSTRUCTION PERMIT**

## **I. CONSTRUCTION DESCRIPTION**

The Harry S Truman State Park Campground has an unpermitted three cell lagoon for wastewater treatment. The State Park provides the following services between April and October; modern restrooms, a dump station, showers, water and laundry. The three cell lagoon that serves the campgrounds at the Harry S Truman State Park is being relined and adding spray irrigation equipment to qualify as a no-discharge system.

The Division of State Parks originally applied for a construction permit in October 2008 and was issued a construction permit (CP000206) in October 2009. In September 2010, the Division of State Parks identified that the wastewater improvements for the Harry S Truman State Park Campground would not be completed before the expiration date of CP000206 because of funding issues and would like a time extension. The Division of State Parks was given a time extension until October 6, 2011 to complete the wastewater treatment improvements. Again, the Division of State Parks was not going to complete the wastewater treatment improvements before the expiration of CP000206; therefore, on October 5, 2011 the Division of State Parks applied for a new construction permit.

## **II. FINDING OF AFFORDABILITY**

An Affordability Determination and Finding was not performed in accordance with RSMO §644.145 for this specific construction permit. Section 644.145 of HB 89 as signed by the Governor on July 11, 2011, requires the Department to make a finding of affordability with respect to the community and its residents, in connection with the issuance of certain permits under the Missouri Clean Water Law. This requirement applies to discharges from combined or separate sanitary sewer systems or publically-owned treatment works.

The Missouri Division of State Parks submitted a construction permit application in October 2008 for the repairs and upgrade of the lagoon system to install a land application system for the Harry S Truman State Park campground in October 2008; therefore, an affordability finding is not required.

Additionally, professional services for State Agencies are required to be obtained by a procurement process through the Office of Administration per the State of Missouri statutes. This budgetary process does not depend on a community's financial capability to secure funding; rather existing Capital Improvement project funds delegated to the Agency are reallocated. There, as a State Agency, the procurement process does not require changes to rate structures, and no communities incur additional financial burden.

## **III. CONSTRUCTION PERMIT CONDITIONS**

The permittee is authorized to construct subject to the following conditions:

1. This construction permit does not authorize discharge.
2. All construction shall be in accordance with the plans and specifications submitted by Crowley, Wade, Milstead, Inc. on October 10, 2008.
3. The Department must be contacted in writing prior to making any changes to the approved plans and specifications that would directly or indirectly have an impact on the capacity, flow, system layout, or reliability of the proposed wastewater treatment facilities or any design parameter that is addressed by 10 CSR 20-8, in accordance with 10 CSR 20-8.110(8).

4. State and Federal Law does not permit bypassing of raw wastewater, therefore steps must be taken to ensure that raw wastewater does not discharge during construction. If a sanitary sewer overflow or bypass occurs, report the appropriate information to the Department's Kansas City Regional Office per 10 CSR 20-7.015(9)(E)2.
5. This Construction Permit is invalid for projects required to comply with the requirements contained in 10 CSR 20-4, "Grants and Loans"
6. Protection of drinking water supplies shall be in accordance with 10 CSR 20-8.120(10). "There shall be no physical connections between a public or private potable water supply system and a sewer, or appurtenance thereto which would permit the passage of any wastewater or polluted water into the potable supply. No water pipe shall pass through or come in contact with any part of a sewer manhole."
  - A. Sewers in relation to water works structures shall meet the requirements of 10 CSR 23-3.010 with respect to minimum distances from public water supply wells or other water supply sources and structures.
  - B. Sewer mains shall be laid at least ten feet horizontally from any existing or proposed water main. The distances shall be measured edge-to-edge. In cases where it is not practical to maintain a ten foot separation, the Department may allow a deviation on a case-by-case basis, if supported by data from the design engineer. Such a deviation may allow installation of the sewer closer to a water main, provided that the water main is in a separate trench or on an undisturbed earth shelf located on either side of the sewer and at an elevation so the bottom of the water main is at least 18 inches above the top of the sewer. If it is impossible to obtain proper horizontal and vertical separation as described above for sewers, the sewer must be constructed of slip-on or mechanical joint pipe or continuously encased and be pressure tested to 150 pounds per square inch to assure water tightness.
  - C. Manholes should be located at least ten feet horizontally from any existing or proposed water main.
  - D. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either above or below the sewer. The crossing shall be arranged so that the sewer joints will be equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. When it is impossible to obtain proper vertical separation as stipulated above, one of the following methods must be specified:
    - a. The sewer shall be designed and constructed equal to the water pipe and shall be pressure tested to assure water tightness prior to backfilling; or
    - b. Either the water main or sewer line may be continuously encased or enclosed in a watertight carrier pipe which extends ten feet on both sides of the crossing, measured perpendicular to the water main. The carrier pipe shall be of materials approved by the Department for use in water main construction.

7. In addition to the requirements for a construction permit, 10 CSR 20-6.200 requires land disturbance activities of one acre or more to obtain a Missouri State Operating Permit to discharge stormwater. The permit requires Best Management Practices sufficient to control runoff and sedimentation to protect waters of the state. To obtain this permit, submit Form E – Application for General Permit, Form G – Application for Stormwater Permit, and a permit fee of \$300 to the Department’s Kansas City Regional Office. Starting September 1, 2012, land disturbance permits will only be obtained by means of the Department’s ePermitting system available online at [www.dnr.mo.gov/env/wpp/epermit/help.htm](http://www.dnr.mo.gov/env/wpp/epermit/help.htm). See [www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm](http://www.dnr.mo.gov/env/wpp/stormwater/sw-land-disturb-permits.htm) for more information.
8. A United States (U.S.) Army Corps of Engineers (COE) permit (404) and a Water Quality Certification (401) issued by the Department or permit waiver may be required for the activities described in this permit. This permit is not valid until these requirements are satisfied. If construction activity will disturb any land below the ordinary high water mark of Jurisdictional Waters of the U.S. then a 404/401 will be required. Since the COE makes determinations on what is jurisdictional, you must contact the COE to determine permitting requirements. You may call the Department’s Water Protection Program at (573) 751-1300 for more information. See [www.dnr.mo.gov/env/wpp/401/](http://www.dnr.mo.gov/env/wpp/401/) for more information.
9. Upon completion of construction;
  - A. The Missouri Division of State Parks will become the continuing authority for operation, maintenance, and modernization of these facilities;
  - B. Submit the enclosed form Statement of Work Completed to the Department In accordance with 10 CSR 20-6.010(5)(D);
  - C. Submit an electronic copy of the as built if the project was not constructed in accordance with previously submitted plans and specifications;
  - D. Submit a Statement of Work Completed form; and
  - E. Submit a Form B - Application for an Operating Permit for Domestic or Municipal Wastewater  $\leq$  100,000 gallons per day along with the initial operating permit fee.

#### **IV. REVIEW SUMMARY**

##### **1. CONSTRUCTION PURPOSE**

The Harry S Truman State Park campground had an illegally discharging lagoon with no Missouri State Operating Permit. The Missouri Department of Natural Resources, Division of State Parks, submitted a construction permit application in October 2008 to convert the lagoon into a no discharge system with land application. The application also called for the relining of the three (3) cells of the lagoon and to fix any leaks. This construction permit covers the relining of the three (3) lagoon cell to fix the leaks and convert to a no-discharge system by adding spray irrigation equipment including pump station.

## **2. FACILITY DESCRIPTION**

The no discharge system consists of three wastewater stabilization cells. The primary cell is approximately 235 ft by 130 ft by 6 ft deep at top of berm with 3:1 side slopes. The second and third cells are approximately 130 ft by 80 ft by 6 ft deep and 80 ft by 50 ft by 6 ft deep at top of berm with 3:1 side slopes. The berm widths are 9 feet wide. These three (3) cells will be relined to make these cells inclusive and usable earthen wastewater stabilization basins. The system will treat an estimated average of 5,319 gallons per day during dry weather flows and 7,980 gallons per day including the 1 in 10 year rainfall event minus evaporation.

Installation of a pump station with the pump capable of 15 gallons per minute at 145 feet (TDH), and 3 sprinkler systems with 60 feet throw radius.

## **3. COMPLIANCE PARAMETERS**

The conversion from a discharging lagoon to no-discharge lagoon will eliminate most effluent limitations associated with a discharge site specific Missouri State Operating Permit. For example, the requirement to meet ammonia effluent limits along with disinfection requirements, as long as fencing is installed around the land application area to prevent public access.

## **4. REVIEW of MAJOR TREATMENT DESIGN CRITERIA**

The Design Average Daily Flow was determined from the water use records for the campground for 2005, 2006 and 2007 to be 5,319 gallons per day. The primary cell is approximately 235 feet by 130 feet by 6 feet deep at top of berm with 3:1 side slopes. The second and third cells are approximately 130 feet by 80 feet by 6 feet deep and 80 feet by 50 feet by 6 feet deep at top of berm with 3:1 side slopes

The hourly application rate is 0.03 in/hr based on applying 5,319 gallons per day to 0.78 acres in 8 hour day. The daily and weekly application rates are 0.25 in/day and 1.76 in/week based on applying 5,319 gallons per day to 0.78 acres for 7 days per week. The maximum application rate is 61.6 in/year based on applying 5,319 gallons per day to 0.78 acres for 245 days per year.

The wetted application area shall be established at least fifty feet (50') inside the property line; established at least one hundred fifty feet (150') from existing dwellings or public use areas; at least three hundred feet (300') from any sinkhole, losing stream or other structure or physiographic feature that may provide direct connection between the ground water table and the surface; and at least three hundred feet (300') from any existing potable water supply well not located on the property.

## **5. OPERATING PERMIT - INITIAL**

The Harry S Truman State Park campground had an illegally discharging lagoon with no Missouri State Operating Permit. Upon construction completion submit the initial operating permit fee and Form B-Application for an Operating Permit for Domestic or Municipal Wastewater  $\leq$  100,000 gallons per day.